IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Yoav Bar-Yakov, Pierre Georlette, Daniel Plewinski, Ita Finberg
Serial No.:	10/580,661
Filed:	02/15/2007
Art Unit:	1796
Examiner:	Nicole M. Buie-Hatcher
For:	FLAME RETARDANT ADDITIVE OF FLUOROPOLYMERS IN FLAME RETARDANTS
Attorney Docket:	0-06-112
Attorney:	Roach Brown McCarthy & Gruber, P.C. 424 Main Street - 1620 Liberty Building Buffalo, NY 14202

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

DECLARATION OF PIERRE GEORLETTE

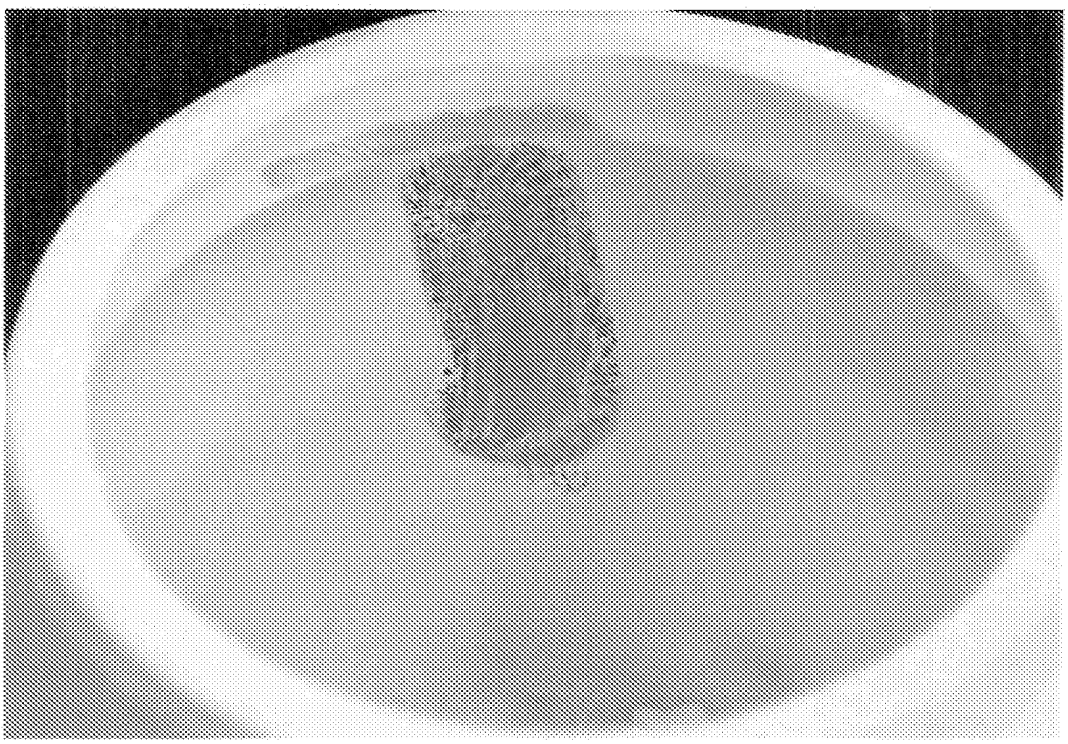
I hereby declare as follows:

1. I have been employed by Bromine Compounds Ltd. since June 6th 1982. My current position is Flame Retardants Technical Support Manager.
2. I am one of the co-inventors and co-applicants of the above identified application and I am familiar with the prosecution of this case. I have reviewed the Office Action issued on 7 May 2010 in this case, as well as the

publications cited therein, including US 4,849,134 of which I am a co-inventor.

3. The Examiner has suggested that the know-how previously published in our US 4,849,134 (Georlette et al., further US/134) could have lead a skilled person to our present invention; namely, a cold-compacted composition according to US/134 is stated to enable the antidripping fluoropolymer concentrate of the present invention. However, as noted on page 6 of the present application, PTFE powders tend to segregate from dry-blended mixtures of flame retardants and/or resins and/or plastic additives. In order to demonstrate this fact to the Examiner, we have now performed several trials in the laboratories of IMI TAMI Institute in Haifa, owned by Bromine Compounds Ltd., and having a long expertise and suitable equipment for processing polymers. We have tried to compact FR systems having similar compositions as the ones described in the present application while using the compaction technique provided by US/134.

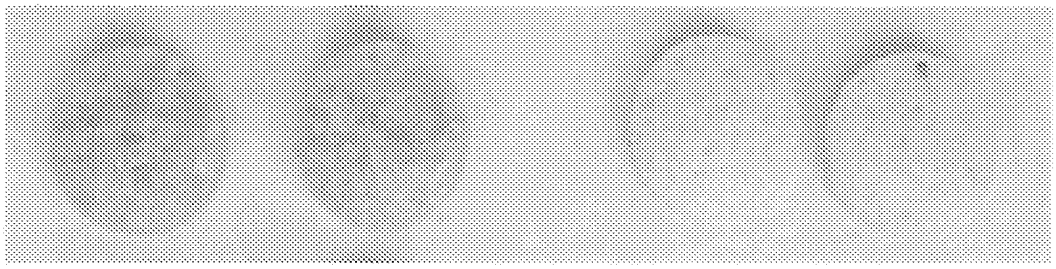
4. We employed mixtures of flame retardants (based on brominated epoxy resins) and fluoropolymer (based on PTFE) preferred in the present invention. Either end-capped brominated epoxy (with F-3100) or brominated epoxy (and F-2400) have been compacted with PTFE in amounts 4.5% or 0.5%, respectively, using the materials in the form of dry-blend powders, as described in US/134, while employing either a rotating mixer or a blender. It was observed that, even after an intensive mixing, substantial quantities of the PTFE segregated and adhered on the vertical wall of the high speed mixer (shown in the photo below, showing the PTFE left on the wall after mixing 95.5% F-3100 + 4.5% PTFE.

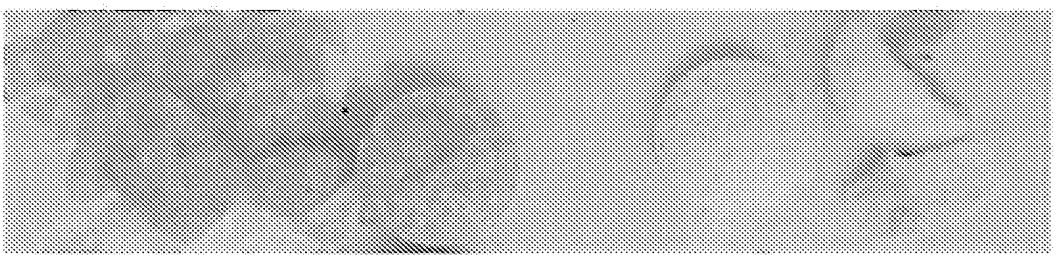


The segregated material is consequently lost and will not enter the compacted mixture. In both mixing techniques (rotating mixer or blender) much of the PTFE was found stuck onto the walls of the mixer or the blender. Moreover, due to a very poor homogenization some PTFE could be seen in the form of white powder on the surface of the particles of the flame retardant F-3100.

5. The compaction was then performed using a hydraulic press; 2-3 g tablets were prepared in a stainless steel cylindrical mold of 12.7 mm diameter. A very high pressure of 1000 kg/cm^2 was used for the compaction – lower pressure did not result in tablets at all. Nevertheless, the compacted materials were easily crumbled by hand. This is another reason why the system of US/134 does not work properly for the aim of the present invention: the granules obtained after compaction have no strength and fall apart under the application of a little pressure by a finger, as can be

seen in the following pictures (upper row shows fresh tablets, lower rows tablets affected by small pressures).





Such low cohesion will cause a significant de-aggregation of the granules before their intended use in thermoplastic compositions; this disintegration may occur during transportation, mixing and feeding steps.

6. In other words, it was impossible to obtain an acceptable homogenization of the PTFE in the flame retardant, and to compact the product without a binder by regular means employed for compaction as described in our US/134.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made herein on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United

States Code, and that such willful false statements may jeopardize the validity of the subject application or any patent issuing thereon.

Dated September 19th 2010 Pierre Georlette